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Disanto et al.

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[54] **ELECTROPHORETIC DISPLAY PANEL WITH SELECTIVE LINE ERASURE**

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[52] **U.S. Cl.** **340/787**; 340/788; 359/296

[58] **Field of Search** 340/787, 788; 350/362

[56] **References Cited**

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[57] **ABSTRACT**

An electrophoretic display apparatus has grid and cathode conductors arranged as an X-Y matrix spaced from an anode with an electrophoretic dispersion in between them. Pigment particles in the dispersion become charged at selected intersection areas of the X-Y matrix and migrate towards the anode to form a display image thereon by biasing the cathode negatively with respect to the anode, and the display image is erased by oppositely biasing the cathode and anode. The anode is formed with a multiplicity of parallel anode line segments corresponding to image lines of the display, and control circuitry is provided for individually controlling the potential applied to each anode line segment in order to allow selective erasure of one or more lines and rewriting of only those lines. A new image frame having a substantial portion thereof the same as a previous frame can thus be rewritten in a shorter time.

15 Claims, 6 Drawing Sheets

FIG. 5